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PLANS FOR RESEARCH ON MEDICAL CARE OF CZECHOSLOVAK WOMEN

[Following is the translation of an article by Docent M. Vojta in Ceskoslovenska gynekologie (Czechoslovak Gynecology), Vol XXVI-XL, No 1/2, Prague, Feb 1961, pages 1-6.]

For more than a year there has been under way an extensive preparation of long-term projects and plans for remaking our society. The experiences and the practice of the past 15 years have proved the advantages of long-term planning, not only with respect to economic problems, but also with respect to research. We know that the pace at which we are moving toward Communism is growing faster as a result of progress in science. In Socialism science and research are given all expendable means available and optimal conditions (Lukas). The greater then is the care of the scientific workers to use them purposefully and systematically.

In recent months we have been preparing, with participation of a wider circle of experts, plans for the development of care of women until the year 1980. We studied the problems of development of women's diseases and the way they will be affected by preventive measures resulting from the changes of the daily regime and other accomplishments of medical science. These ideas served as a basis from which proposals concerning organizational provisions of women's medical care, requirements concerning the quantity and education of personnel, and the number and forms of required establishments was determined. It was also necessary to take into consideration new discoveries in the field of technology which will help to eliminate hard physical work, and will bring essential differences in the very character of work and social interests of the individuals. One more factor which had to be taken into consideration was the reflection of the above changes in the health condition of the people and consequently in the amount of work required of the medical workers.

When we thought of the future roads and developments of research work on the essential problems of our field, gynecology and obstetrics, and compared the present orientation with the tasks of the prepared transition to a Communist society, we realized more the need for a profound revision of the forms of work as well as the marked-out goals. There is no doubt that we made within a short time after the war such achievements which former scientific workers could not have visualized in their wildest imagination. They are not only achievements in care of women of an organizational nature, for even in the field of scientific work we can stand a comparison with foreign countries very well. The number of scientific stations and capable scientific workers is also higher than ever before.

The development of our society proceeds faster and faster. The best proof are the changes in the consciousness of people working in the socialist work collectives. And here we would not be honest to ourselves if we did not admit that we feel the need of a revision and fundamental change in the concept of research, in the determination of objectives of scientific research, and in its content.

Nowadays more than 40% of the work of our gynecologists in ambulatory cases is represented by preventive measures and counseling. The share of prevention in our work is increasing every year. It is presently, however, prevention of the first stage, prevention protecting women from harmful influences of the environment. For this type of prevention we are armed by science with sufficient knowledge, even though we are aware of being unable, for various reasons, to put them consistently into practice. We need material for prevention of the second stage, prevention which forms and improves the people's health (Malek). We wish to arrive at it by solving the problems of the cardinal task of our research, entitled "Healthy Development of the New Generation". Our scientific institutes require a start by solving certain fundamental problems of human physiology, and for our purposes, in gynecology, problems of female physiology, especially the physiology of reproduction.

These are certainly weighty reasons for us to consider the need of changing the concept of research on care of women.

What should be the basis of the new concept of research on the care of women?

Roughly the following conditions and requirements should be mentioned in connection with this:

a) Evaluation of the previous trend of development of research in our stations.

b) Analysis of the results of research in our field achieved on the international scale.

c) Critical re-evaluation of the recognized hypotheses from the viewpoint of the fundamental principles of the materialistic philosophy.

d) Setting of goals of research of socially important and urgent nature, both short-term and long-term.

e) Checking of technical and methodological conditions for possibilities of a complete solution of the problems.

f) Clarification of proper division of labor, both on the domestic scale and on the international scale.

Development Trend of Research at Home

The line of scientific research on care of women has gone through several stages in this country. With the exception of several outstanding spirits who in their times brought original contributions to the world treasury of science (Jungmann, Kivisch, Scanzoni, Pawlik, Rubeska) our science in most cases rather accommodated very fast to the contemporary movements in the world.

The beginning of the century had a predominantly morphological orientation (Pawlik, Pitha, Rubeska, Jeri).

In the following stage in the development of science, especially biochemistry and endocrinology, a growing interest in problems of genital functions was noted (Trapl, Ostrcil, Klaus, Saidl, etc.).

An understandable deficiency of that time was that the study of the humoral aspects, e. g. endocrinal functions, was separated from nerve integration. Only later, after the year 1951, have we met with modest signs of attempts to explain the observed phenomena in connection with the central nervous system.

The present stage is characterized by the development of research on problems of chemotherapy and antibiotics. Our original contributions are here in most cases lagging behind foreign institutes with better technical equipment.

If we evaluate the concept from which the most significant research workers of the above-mentioned stages were setting out, we have to say that they usually had in mind concrete, clinically beneficial objectives. Only in isolated cases do we meet with attempts to formulate a general theory on the basis of research. The most frequent complaint is insufficient orientation in physiological themes.

We may say that only after 1945, when our scientific workers began to get more closely acquainted with the fundamental principles of the materialistic concepts of science have new impulses for a more general research in gynecology, for the penetration of physiological methods into the field emerged.

After 1951, research in gynecology and obstetrics within the program of the plan of the Ministry of Public Health, concentrated on several principal problems, but still of a predominantly prenatal death and damage to infants, and problems of late gestation and of

inflammation of the genitals. Later on, more problems were included, namely the problems of sterility in marriage, neurohumoral control of genital functions, and diagnostics of precanceroses and prevention of cancer. In research on these tasks a more distinct and purposeful application of physiological methods could be noticed.

A great advantage of the planned research was that most of our scientific institutes were directed to the solution of these tasks.

In 1960 we opened a further stage of research on the task "Healthy Development of the New Generation" directed by the Czechoslovak Academy of Sciences. Research is supposed to create conditions for anticipation of knowledge with which we want systematically to influence the health of a human being.

In these tasks we participate by research on the physiology and pathophysiology of reproduction. This theme contains problems of basic research: gametogenesis, nidation and placentation, the influence of external factors on the development of the fetus and the metabolic relationships between the mother and the fetus. We are striving to penetrate deeper into the laws which make it possible actively to affect the intrauterine developments of the fetus.

An Analysis of the Contemporary State of the Problems

From the viewpoint of preparation of a concept of long-term planning it is not important to deal with the present state of the practical, i.e., clinical problems.

A more profound analysis of the contemporary state should take notice of those facts which are substantial for an explorative solution of the given task. A critical review of the world bibliography shows that here, as in other clinical disciplines, we remained on the surface of getting a knowledge of the facts.

A predominant majority of the scientific works on the problems of physiology and pathology of reproduction and genital functions in various stages of a woman's development dealt only with certain aspects of pathogenesis of these phenomena. The problems of the physiological essence and the casual explications received less attention in the clinical branches of science. To express it in a few words, we were more interested in "how" certain phenomena occurred than in "why" they occurred. Obviously, in the meantime, the possibilities of science have advanced substantially so that nowadays it is easier to give an answer to the latter question.

A more obvious manifestation of the mentioned relations could be seen in obstetrics, e. g., in the problems of prenatal development and fetus infection. Research in this field all over the world has brought a greater amount of new facts only in the past few years. And yet a considerable part of them is of an empirical nature. Some of them, however, contribute also experimentally, for instance, to the explanation of transition of intracellular infections to the fetus (Flamm), or to the casual genesis of monstrosities (Gulkevic).

Correctness of the Accepted Hypotheses

Factual material is always a basis for re-evaluation of scientific hypothese and actually valid laws from new positions. Essential for such re-evaluation must be a correct philosophical approach to the problem, stemming from a true world view.

In the area of human reproduction, and actually this is the essential point of scientific problems of our discipline, the role of the world view is especially important. For the fact that we are dealing as scientists with the fundamental problems of the origin of life and its development must necessarily bring us in controversy with idealistic opinions and hypotheses. To arrive at the objective truth is possible here only through an uncompromising attitude toward idealistic assertions. There is no question that this is not easy. But the unmitigated application of party-mindedness in science is the only way to attain the truth.

After 1950 we were sometimes reproved for making errors, as in gynecology by presenting the materialistic theory of I. P. Pavlov dogmatically, without factual material, applied to the discussed problems. It will not hurt to have a closer look at the present attitude of certain scientists to the problems of need and applicability of philosophy and its general laws in solving special problems of medical science.

Discussions on the importance of philosophy for the development of a specific natural science have been conducted so far only in the biological sciences, e. g. on the Michurin orientation of biology (Malek). In medical sciences there is a debt to be paid or to orient the clinical branches toward Pavlov's theories.

The present silence in the problems of general theory, to the Pavlov orientation in the clinical branches, could appear as abandonment of principles of this materialistic science, but also abandonment of the thesis that a general science -- philosophy -- has something to say to the concrete natural sciences. The real state is different. The Pavlov principles have penetrated the consciousness of medical workers and have become for them a method of work in gnostical problems. There are, however, still some scientists who cling more to the concrete factual material and neglect the need for a wider generalization of the facts they learn. Some of them are overpowered by the possibilities of modern technology, new instruments, and cybernetic models and do not see the main meaning behind them -- to get to know general laws. Sometimes influences and emotionally colored experiences with inappropriate and incorrect attempts to relate the general laws to the concrete facts in the clinic can be seen here as well.

The argumentation of the need of general theories for further progress of research in the clinical branches calls for separate treatment. In this work we can refer, for the sake of brevity, to previous experience and to analogies valid for biological sciences.

Analogies of biological sciences are especially applicable in our discipline. For we solve on a different level the same problems, as e.g., the basic field biology-genetics. The problems that we are supposed to solve within the fundamental task "Healthy Development of the New Generation" cannot be studied without a correct biological approach. The task of Darwinism and the Michurin theory as general theories of biological sciences is for experts already solved. It is necessary for us to learn how to apply it to clinical disciplines. (Beranek -- Adamec)

Definition of the Socially Important Tasks

The problems of obstetrics attract the main interest.

Our organization for medical care of women has through its preventive orientation scored significant achievements in reducing the maternal and infant death rate. In the 1957 conference of the gynecological section there was established an immediate task to reduce perinatal rate of death from 23% to 18%. The fact that since that time we have not yet succeeded in reducing perinatal death rate, especially mortinatality,more substantially, is proof that further success is dependent mostly on transferring new results of research to practice.

For the purposes of long-term planning we cannot content ourselves with solving problems of the causes of perinatal deaths. The tasks of active prevention in the future Communist society put far higher demands than determination of the causes of intrauterine damage of the fetus, which results in an innate development deformity.

These problems are no doubt important for the near future, and research-wise difficult of solution at present. It is, however, necessary to prepare conditions for research in the factors which affect the intrauterine development of the fetus positively.

Equally important for the future are the problems of the physiology of parturition, especially painless childbirth.

Significant in gynecology are first of all the problems of pathophysiology of inflammation of the genitals, functional disturbances of the genital cycle, and the climacteric. The social importance of these problems springs from the fact that they frequently affect working women and are causes of incapacity for work. In addition to these, new wide problems of gerontological research are arising. Not less important are the problems of gynecological oncology. In each of the above problems there are significant elements for long-term prospects of research.

The actual objectives resulting from a new concept of research in gynecology and obstetrics must therefore lie in efforts to gain knowledge of the biological essence of the phenomena. These are primarily problems of growth and reproduction of gametes, somatic cells and tissues, regeneration of organs, neurohumoral regulation

of genital functions, biology of growth of benign and malign tumors of the genitals, etc. All this should be studied also from the viewpoint of psychology and the influence of social environment.

Complex Solution of the Problems

Complex scientific research is today the basic characteristic of any research in the natural sciences. The development of science goes forward so fast that without constant watching of progress in other natural and social sciences we cannot expect lasting results in our own field.

In gynecology, cooperation, namely cooperation with theoretical disciplines, is used in not quite appropriate proportions. We have concentrated more on the methods of biochemistry, histology and microbiology in such a way that we tried to master them ourselves. Complexness of research, however, means collective cooperation of various experts highly qualified in the individual fields. This is the only way to avoid dilettante blunders.

In long-term planned research we will be taking into consideration primarily an intensive cooperation with other experts, such as those specializing in genetics, embryology and physiology as well as neurophysiologists, radiobiologists, immunologists, biophysicists, and other experts. Special emphasis should be put on cooperation with workers of psychology and Marxist sociology. It is assumed, however, that workers from these additional fields will concentrate on special problems of study of physiology of reproduction and that they will spend even several years in preparation for their tasks.

This fact reveals the extensive importance and scope of long-term planning in research.

Equally important from the viewpoint of the new concept of research in gynecology is the application of the new triumphs of technology (Laufberger). Understanding of the regulation mechanisms in the physiological processes is nowadays impossible without intricate registration and analyzing instruments. Cybernetics attracts the attention of research workers, even though the ideas of correct application of this new science are not always quite crystallized and oftentimes not even correct.

From the cooperation with scientists of informative disciplines we expect assistance and help in two respects;

1. In compilation of registration and analyzing instruments for study of various actions in female organism (uterine function, humoral modifications in the genital cycle, and other phenomena).

2. In mechanization of processing of scientific information.

Further progress in science with a tremendous production of reports on the results of research is possible only with aid of new, mechanized documentation.

Organization of the Research

The present reflections are the result of numerous discussions on planning of research and concrete work in the discipline. The unusually rapid development of science and information in the press results in approximation of themes at many research stations and shortening of the intervals between reporting new discoveries. What it actually means is wasting of efforts of scientists who are working on the identical problems without being aware of it. At the same time, there remain numbers of in no way less important problems to be solved. Avoiding of duplication in scientific work is at present a very important organizational task.

Previous experience in planning research is good and has convinced many scientific workers that it multiplies their strength. Central planning within the scope of one country is no longer sufficient. It is therefore proper to prepare conditions for division of labor among the countries of the socialist system, as has been agreed upon by the scientists who met at the Moscow Symposium in 1960.

In all countries of the world the scientists are thinking of the productivity of their work. They ponder the problems of organization of scientific work, organization of collecting material, checkups of accuracy of the applied methods and instruments, and the methodics of evaluation of the results of scientific work (Soukup). Also these problems belong among reflections on a new concept of research, and they should be given due attention.

Conclusions

The present development of our society demands that science and scientists, along with fulfilling the pressing tasks of our Public Health, insures anticipation of science of the needs of a society which is in transition to Communism. In the care of women, the new orientation of research is set by the research in problems of the physiology and pathology of reproduction. The essential condition is to give more attention to those tasks which will help us to develop the higher level of prevention -- preventive care actively shaping health.

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